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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,726	11/20/2003	William R. Hancock	H0005279-1623 (256.153US1	8710

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EXAMINER	
RICHER, AARON M	

ART UNIT	PAPER NUMBER
2628	

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/717,726	HANCOCK ET AL.	
	Examiner	Art Unit	
	Aaron M. Richer	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa (U.S. Patent 5,757,364) in view of Dawson (U.S. Patent 6,771,274).

5. As to claims 1 and 12, Ozawa discloses an apparatus comprising:

a rendering engine to render a foreground of an image (fig. 1, element 302); and

a logic, separate from the rendering engine, to merge at least one background color with the foreground of the image, after the foreground of the image is rendered by the rendering engine (fig. 1, element 304; the background color is not merged until the foreground pixels of the window have been generated in fig. 1, element 102).

Ozawa merges a background color with a foreground, but because there is no actual mixing between the color and the foreground, Ozawa does not disclose a "blend" between background color and foreground. Dawson, however, discloses alpha blending between background color and foreground. The motivation for this is to create the effect of partial transparency, such as the effect that takes place when one looks through a car windshield (col. 1, lines 20-44). It would have been obvious to one skilled in the art to modify Ozawa to blend background color and foreground in order to create the effect of partial transparency as taught by Dawson.

6. As to claims 2 and 3, Ozawa discloses a background color table to store a background color for a number of windows (col. 5, lines 19-30; fig. 1, element 132).

7. As to claim 4, Ozawa discloses a frame buffer to store pixels of the foreground, wherein the logic is to retrieve the color values of the foreground (fig. 1, element 303).

8. As to claim 5, Ozawa discloses an apparatus wherein the image is comprised of a number of windows (fig. 1, element 131), the frame buffer to include ping-pong type buffers to store color values of the foreground (fig. 1, elements 111, 112, 114 and 115; col. 4, lines 5-21; because one buffer is being read while the other is being written to, the A and B buffers read on ping-pong buffers), the frame buffer to include a Z buffer to store identification of a window where the pixels of the foreground are located (fig. 1,

elements 131 and 113; col. 5, lines 1-18), wherein the apparatus further comprises a buffer select table to store an identification of one of the ping-pong type buffers that includes the color values of the foreground of the image (fig. 1, elements 116 and 119).

9. As to claim 6, Ozawa discloses an apparatus wherein the logic is to merge the at least one background color with the foreground of the image based on the identification of the window stored in the Z buffer and the identification of the one of the ping-pong type buffers stored in the buffer select table (col. 5, lines 19-45; a background color is merged if necessary according to an identifier).

10. As to claim 7, Ozawa discloses a system for generating a merged image, the system comprising:

a system memory (fig. 2, element 203);

a processor to generate graphics instructions based on execution of a graphics application, wherein the processor is to store the graphics instructions into the system memory (fig. 2, element 205);

a rendering engine coupled to the system memory through a graphics bus, the rendering engine to retrieve at least a part of the graphics instructions from the system memory and to render a foreground image based on the retrieved part of the graphics instructions (fig. 3, element 302);

and a background merge logic, separate from the rendering engine, and coupled to the system memory through a system bus (fig. 3, element 304), wherein the background merge logic is to retrieve at least a part of the graphics instructions from the system memory, wherein the background merge logic includes a background color table

(fig. 1, element 132), the background merge logic to store at least one background color in the background color table based on the at least part of the graphics instructions, the background merge logic to merge, after the rendering engine has rendered the foreground image, the at least one background color received from the video source with a window of the rendered foreground image to generate the merged image (fig. 1, element 304; the background color is not merged until the foreground pixels of the window have been generated in fig. 1, element 102).

Ozawa merges a background color with a foreground, but because there is no actual mixing between the color and the foreground, Ozawa does not disclose a "blend" between background color and foreground. Dawson, however, discloses alpha blending between background color and foreground. The motivation for this is to create the effect of partial transparency, such as the effect that takes place when one looks through a car windshield (col. 1, lines 20-44). It would have been obvious to one skilled in the art to modify Ozawa to blend background color and foreground in order to create the effect of partial transparency as taught by Dawson.

11. As to claim 8, Ozawa discloses an apparatus comprising a frame buffer to store a current read buffer, a current write buffer and a window buffer (fig. 1, elements 111, 112, 114, and 115) and wherein the background merge logic includes a buffer select table (fig. 1, element 132; the table includes a "display buffer designation" column), wherein the rendering engine is to store color values, a window identification for the pixels into the window buffer and buffer identification for the pixels in the buffer select table (fig. 1, element 132).

Ozawa does not disclose storing an attenuation value of pixels of the foreground image into the current write buffer. Dawson, however, discloses storing an alpha value, which corresponds to an "attenuation value", in a frame buffer (col. 1, lines 52-55). The motivation for combining the inventions can be found in the rejection to claim 7.

12. As to claims 9, 10, and 13, Dawson further discloses a method wherein blending the background color into the image comprises:

multiplying an alpha intensity value of the foreground with a value of the background color (fig. 5);

and adding a color value of the foreground with the value of the background color (fig. 5). The motivation for adding these features can be found in the rejection to claim 7.

13. As to claim 11, Ozawa discloses a display monitor, wherein the background merge logic is to output the merged image for display on the display monitor (fig. 2, element 207).

14. As to claim 14, Ozawa discloses the color value of the foreground of the image are stored in an A buffer or a B buffer in a frame buffer (fig. 1, elements 111, 112, 114, and 115) and wherein the background color is stored in a background color table that is not in the frame buffer (fig. 1, element 132). Ozawa does not disclose a method wherein the alpha intensity value is stored in a frame buffer. Dawson, however, does disclose this (col. 1, lines 52-55), and the motivation for combining the inventions can be found in the rejection to claim 7.

15. As to claim 15, Ozawa discloses selecting the background color based on an identification of a window (fig. 1, element 132; col. 5, lines 19-45).

16. As to claim 16, Ozawa discloses a method of rendering an image, the method comprising performing the following operations in a hardware logic that is separate from a rendering engine that renders at least one foreground pixel for a window in the image, wherein the following operations are performed after the at least one foreground pixel is rendered (fig. 1, element 304; the background color is not merged until the foreground pixels of the window have been generated in fig. 1, element 102):

retrieving the at least one foreground pixel from a frame buffer (fig. 3, element 303 includes buffers for the foreground pixels);

Ozawa does not disclose blending color data of a video with the at least one foreground pixel, upon determining that the video is in the background at a location of the foreground pixel, nor does Ozawa disclose blending a background pixel with the at least one foreground pixel, upon determining that the video is not in the background at the location of the foreground pixel. Dawson, however, discloses both of these steps (fig. 2, element 34; col. 4, lines 5-25 and fig. 2, element 30; col. 4, lines 37-58). The motivation for performing such blending steps is to create the effect of partial transparency, such as the effect that takes place when one looks through a car windshield (col. 1, lines 20-44). It would have been obvious to one skilled in the art to modify Ozawa to blend background color or video and foreground in order to create the effect of partial transparency as taught by Dawson.

17. As to claim 17, Ozawa discloses a method wherein merging the background pixel with the at least one foreground pixel comprises retrieving the background pixel from a background color table that is internal to the hardware logic based on an identification of the window (fig. 1, element 132). Ozawa does not disclose a "blend", but this is disclosed by Dawson and explained in the rejection to claim 16.

18. As to claim 18, Dawson discloses multiplying an alpha intensity value of the at least one foreground pixel with a value of the background pixel and adding a value of the foreground pixel with the value of the background pixel (fig. 5, elements 220, 230, and 250).

19. As to claim 19, Ozawa discloses a method comprising:

rendering an image, wherein the rendering comprises:

rendering, by a rendering engine, foreground pixels of the image (fig. 1, element 302);

and merging, by a hardware logic that is separate from the rendering engine, the image based on a merger of a background fill pixels with the foreground pixels (fig. 1, element 304; the background color is not merged until the foreground pixels of the window have been generated in fig. 1, element 102).

Ozawa merges a background color with a foreground, but because there is no actual mixing between the color and the foreground, Ozawa does not disclose a "blend" between background color and foreground. Dawson, however, discloses alpha blending between background color and foreground. The motivation for this is to create the effect of partial transparency, such as the effect that takes place when one looks

through a car windshield (col. 1, lines 20-44). It would have been obvious to one skilled in the art to modify Ozawa to blend background color and foreground in order to create the effect of partial transparency as taught by Dawson.

20. As to claim 20, Dawson discloses a method wherein forming the image based on the merger of the background fill pixels with the foreground pixels comprises:

assigning a weight of the background fill pixels relative to the foreground pixels based on alpha intensity values of the foreground pixels (fig. 5, elements 212 and 246);

and merging the background fill pixels with the foreground pixels based on the assigned weight of the background fill pixels (fig. 5).

21. As to claim 21, Dawson discloses a method further comprising displaying the image (fig. 5, element 298).

22. As to claim 22, Ozawa discloses a method comprising:

rendering, by a rendering engine, color data of a foreground pixel for a window of the image (fig. 1, element 302);

storing, by the rendering engine, the color data for the foreground pixel into a current write buffer of a ping/pong buffer (fig. 1, element 309);

performing the following operations, after rendering of the color data by the rendering engine, in a graphics logic having a background color table, independent of operations by the rendering engine (fig. 1, element 304; the background color is not merged until the foreground pixels of the window have been generated in fig. 1, element 102):

retrieving an identification of the window (fig. 1, element 131);

retrieving, based on the identification of the window, an identification of a current read buffer of the ping/pong buffer from a buffer select table (col. 5, lines 19-45);

retrieving color data of a background pixel located at a same location in the image as the foreground pixel from the background color table based on the identification of the window and the identification of current read buffer (col. 5, lines 31-45);

and merging the adjusted color data of the background pixel with the color data of the foreground pixel (col. 5, lines 31-45).

Ozawa does not disclose color data including an alpha intensity value or adjusting an intensity of the color data of the background pixel based on the alpha intensity value. Dawson, however, does disclose these features (col. 1, lines 52-55; fig. 5), as recited in the rejections to claims 8-10 and 13. The motivation for combining the inventions can be found in the rejection to claim 7.

23. As to claim 23, Ozawa discloses displaying the merged background pixel data and foreground pixel data (fig. 2, element 207).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M. Richer whose telephone number is (571) 272-7790. The examiner can normally be reached on weekdays from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMR
8/3/06

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